Build a tansu chest

Spice up a room with a piece of Japanese furniture

By Cathy Dalrymple

Photo by Brenda Falvey

I've always appreciated Japanese Tansu furniture, and a request from a client gave me an excuse to build some. The style dates back to the Edo period (1615-1867), when the construction of each piece would reflect the needs of the home and the class status of its owner. In the case of this Tansu step chest (called kaidan dansu in Japanese), the stepped design allows the homeowner to access loft space while incorporating storage. It's said this particular configuration was designed to fool the taxman, as two-storey dwellings were taxed at a higher rate.

The homeowner could simply flip the top portion of the chest onto the lower “steps” to create a square chest, eliminating the appearance of stairs. My version of the chest was made for a friend, with contemporary details to reflect her needs and dÃ©cor. I'm not sure what the Canada Customs and Revenue Agency's official position is on this furniture, but I don't suppose it would help much in an audit.

Since there are many similar parts involved in this project, I've divided it into four levels-A through D. Each part has a full name, plus a short-form letter and number label. The materials list shows both the full name and the shortform, while the instructions and plans include shortforms only for clarity. Although the parts list is long, don't let any of it scare you. The Tansu chest is just a bunch of stacked, drawer-equipped boxes. Crisp workmanship and precision are all you need to get this project right.

Instructions

Starting Up

Begin by selecting the most attractive maple-veneered plywood you can find for the vertical members of all four levels. Be sure to cut adjoining parts from the same piece of ply, to preserve continuity of grain pattern. Note that the outer vertical pieces are 3/4" higher than the internal lower dividers (D3). Continue by cutting all horizontal members. Since there's only 10" of wood visible on each “step” surface, orient the top parts so the best wood remains visible after assembly.

Since you're working with plywood, all of the exposed edges need to be covered in some way after cutting. I used iron-on edging for this, although solid edging is certainly an option. You'll find it easier to edge with oversized pieces of ply first, then cut them to size after the glue has dried.

Even though this project is simple, now's a good time to dry fit your parts before you get to the glue stage. While you're at it, mark all of the joint locations for the biscuit slots you'll cut later. As you work, be careful that everything remains square. Even small errors become more noticeable with so many vertical and horizontal surfaces.

In addition to biscuits, I also used #8 1 1/2" countersunk screws at a few locations, to reduce the need for so many clamps and to speed production. Screws should only be used where you won't see them in the final project, in areas that are covered by neighbouring sections.

Begin assembly with lower level D. Forget that the other sections exist for a minute, and complete another dry-fit of parts D1, D2, D3 and D4. Since too-shallow biscuit slots can prevent project parts from coming together fully during final assembly, it's always wise to test-fit biscuit joints without glue.

Continue by putting together middle level C. Use biscuits to join this subassembly to lower level D when it's dry. Repeat the process for upper level B, completing the stationary lower section of the chest. Join the separate step top A before moving on to the drawers.

Tansu Drawers

I made my drawers from 1/2"-thick Baltic birch ply, with a 1/4"-thick ply drawer bottom that fits into grooves on the inside face of all four drawer box sides. A separate flush-mounted, solid-wood drawer face goes on each drawer box after it's built and installed. The mechanical drawer slides I chose require that each drawer box be one inch narrower than the opening it fits into. This is a standard figure, but be warned: there's not much room for error. That's why you need to custom build each drawer for a specific opening.

Don't follow the materials list dimensions exactly for drawer box parts since normal construction variations on your chest may demand a slightly wider or narrower drawer size. The bottom set of drawers requires a different style of mechanical slides, as I found out later after buying them all the same. Since the chest sits directly on the floor, there's no room to tilt the bottom drawers to get to the contents at the back. That's why you need to use lever-release, full-extension drawer slides for the three bottom drawers.

Once the drawers are built, installed and sliding to your satisfaction, cut decorative drawer faces. If you prepare neighbouring drawer faces from the same piece of wood, the continuous grain patterns will enhance the appearance of your project. Parts listed as drawer fronts are actually used in two places: on the front of each drawer box (as you'd expect), and on the back of the project, permanently mounted to cover the back of each drawer space. These fixed rear “drawer faces” need to fit snugly within their openings (nail them into place after finishing), while the real drawer faces require some clearance with the wood that surrounds them so they can move back and forth. I use strips of melamine as spacers around the drawer faces. Some people use pennies to do this, but I find there isn't much to grab. Once I'm happy with drawer face locations, I lock the parts in place with two #6 one inch countersunk screws driven through each drawer face where the handle will be located. Open the drawer and add four #8 one inch screws countersunk from inside the drawer box.

To finish the project, I used three coats of Minwax Polyshade Honey Pine, followed by one top coat of clear urethane. I sanded between the coats of stain using 220-grit sandpaper, then used #0000 steel wool between the stain and the urethane coats. After the urethane coat, I wet-sanded using 400-grit paper. Finally, it's time to put on the hardware. This final step really transforms the piece.

The black metal hardware I used was custom-made for me by a blacksmith in Cranbrook, B.C. If you don't have a blacksmith at your disposal, there are many sources of Tansu hardware online.

This project works quite well as an efficient storage piece under an open staircase or next to a closed set of stairs, playing up their shape. Just don't expect either location to help much if the tax auditors pay a visit.

Tools and Materials

Part	Material	Size (T x W x L*)	Qty.
For Step Top A			
Small top A1	maple ply	3/4" x 10" x 23 1/2"	1
Large top A2	maple ply	3/4" x 20" x 23 1/2"	1
Large bottom A3	maple ply	3/4" x 18 1/2" x 23 1/2"	1
Sides A4	maple ply	3/4" x 9 1/4" x 23 1/2"	4
Small drawer sides A5	Baltic birch ply	1/2" x 7 1/2" x 20"	2
Small drawer back/front A6	Baltic birch ply	1/2" x 6 1/2" x 7 1/2"	2
Small drawer faces A7	solid maple	3/4" x 9 1/4" x 8 1/2	2
Small drawer bottom A8	Baltic birch ply	1/4" x 6 3/4" x 19"	1
Large drawer sides A9	Baltic birch ply	1/2" x 7 1/2" x 20"	2
Large drawer front/back A10	Baltic birch ply	1/2" x 7 1/2" x 16 1/2"	2
Large drawer faces A11	solid maple	3/4" x 8 1/2" x 18 1/2"	2
Large drawer bottom A12	Baltic birch ply	1/4" x 16" x 19"	1
For Lower Level D			
Lower top D1	maple ply	3/4" x 23 1/2" x 50"	1
Lower Sides D2	maple ply	3/4" x 9 1/4" x 23 1/2"	2
Lower dividers D3	maple ply	3/4" x 8 1/2" x 23 1/2"	2
Lower bottom D4	maple ply	3/4" x 23 1/2" 48 1/2"	1
Lower drawer sides D5	Baltic birch ply	1/2" x 7 1/2" x 20"	6
Left lower drawer front/back D6	Baltic birch ply	1/2" x 7 1/2" x 16 1/2"	2
Left lower drawer faces D7	solid maple	3/4" x 8 1/2" x 18 1/2"	2
Middle lower drawer faces D8	Baltic birch ply	1/2" x 7 1/2" x 17 1/4"	2
Middle lower drawer faces D9	solid maple	3/4" x 8 1/2" x 19 1/4"	2
Right lower drawer front/back D10	Baltic birch ply	1/2" x 7 1/4" x 7 1/2"	2
Right lower drawer faces D11	solid maple	3/4" x 8 1/2" x 9 1/4"	2
Left drawer bottom D12	Baltic birch ply	1/4" x 16" x 19"	2
Middle drawer bottom D12	Baltic birch ply	1/4" x 16 3/4" x 19"	2
Right drawer bottom D12	Baltic birch ply	1/4" x 6 3/4" x 19"	2
Hardware			
Drawer glides	Blum, 18"		10
Full-extension drawer slides	lever release, ball-bearing type, 18"		10
Corner braces	forged steel*		16
T-braces	forged steel*		6
Drawer pulls	forged steel*		9

*Custom-made

* Length indicates grain direction

Plan

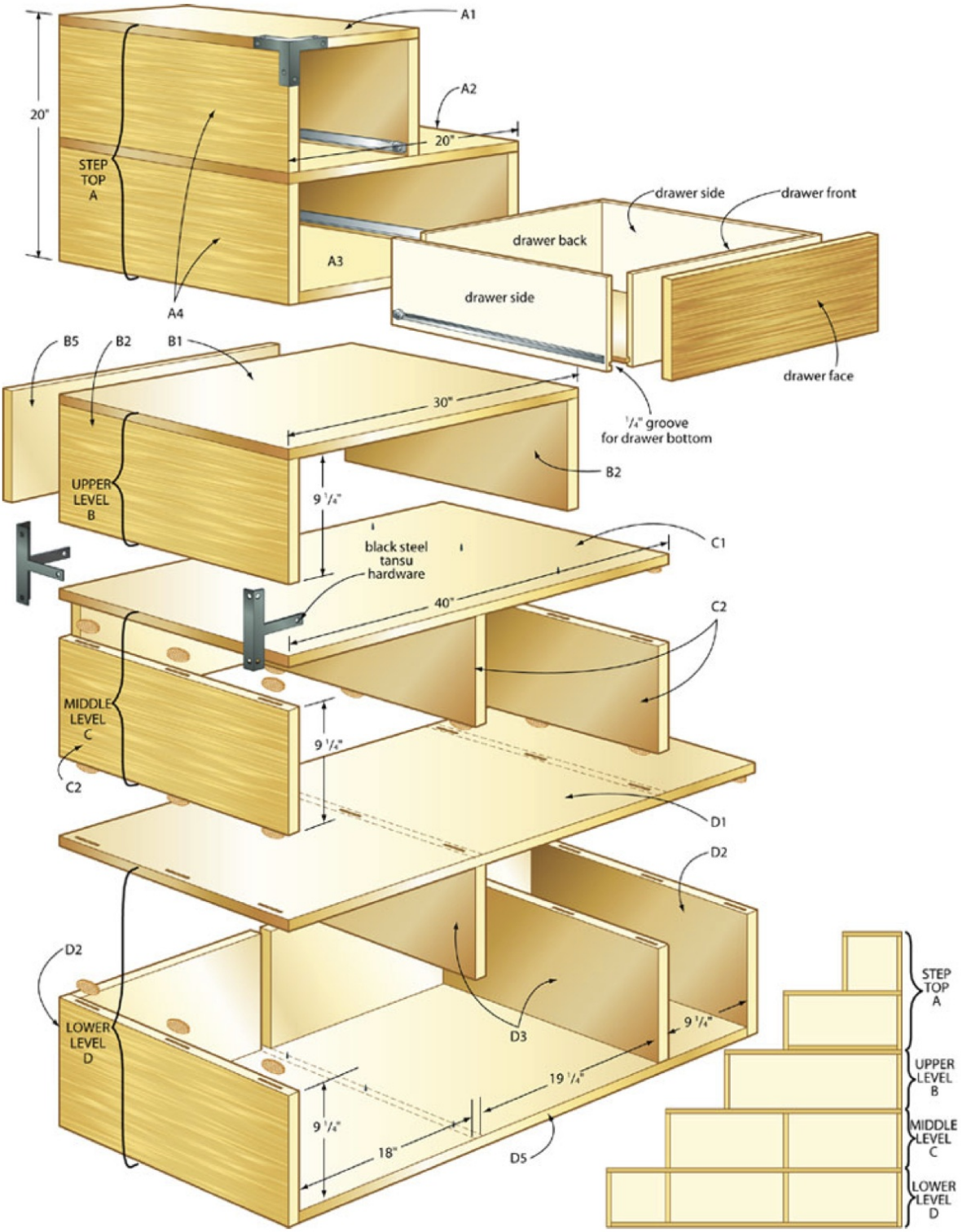

Illustration by Len Churchill